

**ABSTRACT**

The number of managed network elements within a SONET network is configured to exceed the number addressable elements in a given address area. This is achieved through the use of SONET extension network elements and a special TL1 command message protocol. Any network element that has only one optical path (protected or unprotected) to an adjacent network in the SONET network can become an extension network element. TL1 command messages may be targeted to an extension network element through its only adjacent network element based on the network element's physical port connecting the network element to the extension network element.